1. A quality control process for detecting physical and/or chemical changes in a CMP slurry, comprising the steps of:

transmitting radiation through a flow of the CMP slurry, the radiation having one or more wavelenghts;

determining transmission of the transmitted radiation at each of the wavelengths; and

monitoring transmission, over time, to detect physical and/or chemical changes of the CMP slurry.

2. A process of claim 1, further comprising determining a slope of transmission as a function of the wavelengths.

3. A process of claim 1, further comprising the step of detecting changes in the particle size distribution of the CMP slurry.

4. A process of claim 3, further comprising the step of determining a change in the slope, over time, the change in slope indicating change in the particle size distribution.

5. A process of claim 3, further comprising determining a slope of a logarithmic of transmission.

6. A process of claim 1, further comprising the step of determining a slope of a logarithmic of transmission as a function of the wavelengths.

7. A process of claim 6, further comprising the step of determining a change in the logarithmic slope, over time, the change in the slope indicating change in a particle size distribution of the CMP slurry independent from a change in particle concentration.

8. A process of claim 1, further comprising the step of detecting changes in the particle size distribution of the CMP slurry wherein the particle size distribution corresponds to a value between about 0.03 and 1.0 micron.

9. A process of claim 1, further comprising the step of detecting changes in the particle size distribution of the CMP slurry wherein the particle size distribution corresponds to a value above about one micron.

10. A process of claim 1, wherein the step of transmitting the radiation comprises transmitting the radiation through the flow having a diameter of about 100 microns.

11. A process of claim 1, wherein the step of transmitting the radiation comprises transmitting the radiation through the flow having a diameter of between about 100-2000 microns.

12. A process of claim 1, wherein the step of transmitting the radiation comprises transmitting the radiation through a sample cell selected on the basis of desired accuracy.

13. A process of claim 12, further comprising selecting a sample cell defining a flow diameter of about 100 microns.

14. A process of claim 12, further comprising selecting a sample cell defining a flow diameter of between about 100-2000 microns.

15. A process of claim 1, wherein the step of determining transmission comprises determining transmission to an accuracy of at least about 1%.

16. A process of claim 1, wherein the step of transmitting comprises utilizing a grating to select the wavelengths of the radiation.

17. A process of claim 1, wherein the step of transmitting comprises using a laser.

18. A process of claim 1, wherein the step of transmitting comprises utilizing at least two filters to select the wavelengths.

19. A process of claim 1, further comprising generating a warning corresponding to the changes.

20. A process of claim 1, further comprising the steps of detecting changes in the particle size distribution of the CMP slurry and of comparing the transmission to a reference transmission indicative of a preferred particle size distribution within the flow.

21. A process of claim 20, further comprising the step of storing the reference transmission in memory.

22. A process of claim 1, further comprising the steps of
(a) detecting changes in the particle size distribution of the CMP slurry
(b) storing a plurality of reference transmissions, each reference transmission corresponding to a particular CMP slurry flow and particle distribution, and (c) selecting one reference transmission and comparing the transmission to the selected reference transmission.

23. A process of claim 1, further comprising utilizing Mie theory to calculate particle sizes within the CMP slurry.

24. A process of claim 1, further comprising comparing transmission information with an empirical curve of extinction efficiency versus particle size diameter to determine particle sizes within the CMP slurry.

25. A process of claim 24, wherein the particle size diameter comprises a function of (pi) D/ lambda, where D is the particle size diameter and lambda corresponds to wavelength associated with the transmission.

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26. A system for evaluating CMP slurry quality in a process, comprising:

a light source generating a beam of electromagnetic radiation for transmission through a flow of the slurry;

a spectral discriminator for isolating at least two wavelength bands of the radiation prior to transmission of the radiation through the flow;

a detector for detecting radiation transmitted through the flow; and

a processor for evaluating transmission of the wavelength bands through the flow to determine physical and/or chemical changes of the CMP slurry.

27. A system of claim 26, wherein the discriminator comprises two wavelength bandpass filters.

28. A system of claim 26, wherein the discriminator comprises a filter wheel.

29. A system of claim 26, wherein the discriminator is selected from the group consisting essentially of a laser and a grating.

30. A system of claim 26, wherein the processor comprises a computer.

31. A system of claim 26, further comprising memory, coupled to the processor, for storing one or more reference transmissions, each reference transmission corresponding to a particular CMP slurry flow and particle size distribution, the processor selecting one reference transmission and comparing the transmission to the selected reference transmission to detect changes in the particle size distribution.

32. A system of claim 26, further comprising memory, coupled to the processor, for storing data indicative of extinction efficiency as a function of particle size diameter, the processor comparing the transmission to the data to determine particle sizes within the CMP slurry.

33. A system of claim 26, wherein the processor comprises processing means to calculate a logarithm of transmission at each wavelength band and to determine a change in slope of logarithmic transmission versus wavelength band to detect changes in particle size distribution of the CMP slurry independently from changes in particle concentration.